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PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Goedeken et al.	**Examiner:**	Tran Lien, Thuy
Serial No.:	10/677,029	**Group Art Unit:**	1794
Filed:	October 1, 2003		
For:	DOUGH COMPOSITIONS AND RELATED METHODS	**Docket No.**	P6187US (PIL0164/US)

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dear Sir or Madam:

I, David J. Domingues, declare and say as follows:

1. I am a citizen of the United States of America, and reside at 11520 - 39th Avenue North, Plymouth, Minnesota 55441.

2. I am presently Sr. Principal Scientist at General Mills, Inc. in Research and Development. I am named a joint inventor of the above-identified patent application.

3. I have read and am thoroughly familiar with the final Office Action mailed December 7, 2007, the documents cited therein, including U.S. Patent No. 5,451,417 (Freyn et al.), and the Response and Amendment filed concurrently herewith. I am also familiar with the dough formulations described in the above-identified patent application. I therefore make this Declaration in support of the patentability of claims of the application.

4. I prepared the following dough formulations:

Inventive Dough Formulation – Example 2 formulation in Table 2-A on page 19 of Applicants' specification.

Ingredient	Bakers %
flour	100
sucrose	5.42
e-soda (75% active soda, 25% fat)	1.41*
GDL	2.57
water	59.81
cake yeast	3.62
shortening	7.97**

* Table 2-A in Applicants' specification shows that 2.15 Bakers % of BAKESURE 195 was used. BAKESURE 195 has an activity of 70% soda and 30% fat. 2.15 Bakers % of BAKESURE 195 corresponds to 0.828 weight percent of soda based on the total weight of the dough composition. BAKESURE 195 was not available for the experiment in support of this Affidavit so a substitute e-soda was used in the amount of 1.41 Bakers percent. The substitute e-soda has an activity of 75% soda and 25% fat. 1.41 Bakers % of the substitute e-soda corresponds to 0.585 weight percent of soda based on the total weight of the dough composition. Using a lower amount (0.585 instead of 0.828) of soda in the experiment for this Affidavit is a more rigorous test for the Inventive Dough Formulation because using less soda infers that less dough expansion would take place resulting in lower raw specific volume values.

** Table 2-A in Applicants' specification shows that shortening was used in the amount of 7.23 Bakers %. Since, as discussed above, a lower amount of e-soda was used for the experiment in support of this Affidavit, a slightly higher amount (7.97 Bakers %) of shortening was used to make up for the lower amount of e-soda used. This slightly higher amount of shortening does not infer that more dough expansion would take place and that higher raw specific volume values would be achieved.

The ingredients of the Inventive Dough formulation were blended together in a mixing bowl and mixed on slow speed for 60 seconds followed by mixing at fast speed for 6 minutes.

Freyn et al. Formulation –
Example 1, Sample C, at column 6
of the Freyn et al. reference.

Ingredient	Bakers%	Actual Bakers %*
flour*	100	100
sucrose	8.49	7.91
NFDM	4.26	3.97
whey	2.13	1.98
salt	1.49	1.39
baking soda	3.53	3.29
SALP	3.93	3.66
dough conditioner	0.70	0.65
yeast	7.08	6.60
water	70.76	65.94
shortening	16.98	15.82

*An additional 100 grams of flour was added to the Freyn et al. formula as the dough was too sticky to remove effectively from the bowl and shape. The additional 100 grams of flour resulted in the amounts reported as "Actual Bakers %." This additional amount of flour improves the gas holding capacity of the Freyn et al. dough and, therefore, helps the proofing properties of the Freyn et al. dough.

The dry ingredients of the Freyn et al. formulation were combined together in a mixing bowl. Then, water at 10-16°C (50-60.8°F) was added to the dry ingredients in the mixing bowl (spiral mixer). The ingredients were mixed on low speed for one (1) minute followed by high speed for 4-10 minutes.

For each of the Inventive and Freyn et al. dough compositions, the doughs were formed into 75 gram balls and placed onto a line baking sheet (4 trays of 16 balls each were made). Then, the baking sheet was covered with a plastic bag, frozen in blast freezer, and stored at -10°F for 24 hours.

5. The proofing properties of the "Freyn et al." dough, after thawing from a frozen state, were compared with the proofing properties of the "Inventive" dough, after thawing from a frozen state. With respect to independent claims 1, 12, and 21, as amended, the results show that, in accordance with the invention of the above patent application, dough compositions can be formulated to "proof" at a temperature in the range from 32°F to 46°F such that the dough increases in volume by 50% or more and

has a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram (see the specification at, e.g., page 6, lines 16-24). The results further show that the dough prepared as described by Freyn et al. does not "proof" as described in the above patent application and claimed in amended claims 1, 12, and 21.

6. The initial raw specific volume (RSV) was determined via volumetric displacement. Then the covered trays were placed in atmospheres of 40°F and 45°F, while RSV measurements and volume measurements were recorded as a function of time (duplicate measurements were recorded). The results of these tests, in percent increase in volume and cubic centimeters per gram, indicate substantially different proofing properties when comparing the Inventive dough to the Freyn et al. dough:

40°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough (cc/g)
0	0.964	0.866
2	1.017	0.915
4	1.05	0.9
6	1.195	0.919
8	1.253	0.95
16	1.561	1.116
24	1.734	1.164

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough
0	0	0
2	5.5	5.66
4	8.92	3.93
6	23.96	6.12
8	29.98	9.7
16	61.93	28.87
24	79.88	34.41

45°F Data

Time (Hours)	RSV of Inventive Dough (cc/g)	RSV of Freyn et al. Dough (cc/g)
0	0.964	0.866
2	0.986	0.901
4	1.018	0.901
6	1.106	0.898
8	1.221	0.933
16	1.549	1.099
24	1.82	1.178

Time (Hours)	Percent volume change of Inventive Dough	Percent volume change of Freyn et al. Dough
0	0	0
2	2.28	4.04
4	5.6	4.04
6	14.73	3.7
8	26.66	7.74
16	60.68	26.91
24	88.8	36.03

7. The Inventive dough composition "proofed" at 40°F and 45°F, i.e., dough increased in volume by 50% or more and had a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram.

8. The "Freyn et al." dough composition did not "proof" at 40°F and 45°F. The Freyn et al. dough composition increased in volume by less than 50% at 40°F and 45°F, and the raw specific volume of the Freyn et al. dough was less than 1.5 cc/g at 40°F and 45°F.

9. This comparison demonstrates that dough compositions can be formulated as described and claimed in the above patent application to "proof" at a temperature in the range from 32°F to 46°F such that the dough increases in volume by 50% or more and has a raw specific volume in the range of from about 1.5 to about 3 cubic centimeters per gram.

10. The Freyn et al. patent does not describe how to make a dough composition that can proof at a temperature in the range from 32°F to 46°F as described and claimed in the above-identified patent application.

11. Based on the above, it is my opinion that one of skill in the dough making art would not have found it obvious to prepare a dough composition that can proof at a temperature in the range from 32°F to 46°F, as described and claimed in the above-identified patent application, based on the Freyn et al. reference.

12. I further believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

March 7, 2006
Date

By 
David J. Domingues

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